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The purpose is to improve the instructional program for pupils through changes in grouping practices, curriculum, and instructional techniques, and through more effective use of teacher strengths, interests, and talents. The redeployment of personnel and salaries possible in the team organization helps to create new teaching jobs with increased prestige, status, and salaries, without affecting the costs of education.

During the first two years, teams were composed of a team leader, a cooperating teacher, and a teacher aide, and each group contained approximately 75 children. During the third year, part-time professional instructional help was added. Larger numbers of pupils and teachers were included in a team, and grade lines were crossed. Research activities centered on development of models for team teaching.

The limited instruments of measurement of the evaluation have shown, to date, that children achieve as well academically in the plan as in the self-contained classroom. They also seem to make a better adjustment to junior high school. Teachers find careers in team teaching more attractive. Team teaching is an effective instructional organization for facilitating grade crossing.

Included in the appendix are details of the evaluation of achievement and adjustment, descriptions of the roles of team members and other school personnel involved in the plan, and a description of the instructional program.

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THE NORWALK PLAN

OF

TEAM TEACHING

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P R E F A C E

The third annual report of the Norwalk Plan of Team Teaching is more than a report on developments in team teaching. The year 1960-61 is important because it was a period during which preliminary studies and proposals for a comprehensive school improvement program were developed. The report presents an account of significant developments in team teaching during 1960-61. There is also a summary of the highlights in the development of team teaching in Norwalk during its first three years. Steps taken towards the development of a comprehensive School Improvement Program are described.

Appreciation is expressed to those who have worked in the preparation of the report, particularly Dr. George Prescott, who prepared much of the original draft, and Miss Helen Patterson, Dr. Bryce Perkins, Dr. James Burke and Mr. Harvey Kelley who participated in the writing of the final draft.

Harry A. Becker
Superintendent of Schools

October 1, 1961

NORWALK PLAN THIRD ANNUAL REPORT

INTRODUCTION

The past ten years have presented a serious challenge to the educators of the city of Norwalk, Connecticut. A school population that has nearly doubled has made it necessary to build and staff twelve new school buildings and seven major additions to existing buildings. For the past several years, approximately one hundred teachers have been hired each year for normal replacement and to meet the needs of the rapidly expanding school population. In an area in which per pupil costs are generally well above the average for the rest of the state, Norwalk has held its costs very close to the state average and yet has been able to establish competitive salary schedules making it possible to attract and to hold good teachers.

Meeting this challenge successfully has been possible only through very careful study of the financial, material and human resources of the Norwalk school system and a determination to make the best possible use of these resources. Such a determination on the part of the superintendent of schools, with the support and encouragement of the school staff, has promoted an active seeking out and development of methods and techniques aimed at improved instruction for the students of Norwalk. Merely providing physical space and the proper number of teachers has not been regarded as sufficient by those responsible for the operation of the city's schools.

In recognition of this commitment by the Norwalk Board of Education for the improvement of the instructional program in the elementary and secondary schools of Norwalk, it received a total of $150,000 in grants from The Fund for the Advancement of Education during a three year period, 1958-61. These funds were used for the planning, organizing, supervising and study of a new program whose main feature has been, "The Norwalk Plan of Team Teaching". The development of the new program has been directed by the Norwalk Plan Steering Committee. The members of this committee are Dr. Harry A. Becker, Superintendent of Schools; Dr. Bryce Perkins, Director of the Norwalk Plan; Miss Helen Patterson, General Supervisor; Dr. James Burke, Director of Research and Information; James Calkins, Director of Guidance and Special Services; Norman Heap, Business Manager; Alfred LaMarche, Director of Teacher Personnel; and Arthur Lalime, Director of Curriculum Materials.

This report describes the major features of the 1960-61 school year, as well as summarizing important aspects of the preceding two years. The report also takes note of the catalytic effect which this experimentation has had on other phases of school development in Norwalk. Although not considered in great detail, since this is basically a report of the Norwalk Plan, it may be accurately stated that the total effect on the improvement of instruction in the schools of the city extends far beyond the buildings and staff members actively engaged in the team teaching programs.

TABLE OF CONTENTS

PREFACE

INTRODUCTION

SUMMARY OF FIRST TWO YEARS
- Purpose 1
- Growth of the Program 1
- Achievement Tests 1
- Adjustment Studies 2
- Teacher Observations 2
- Other Studies 2

THE 1960-61 SCHOOL YEAR
- Pupil Evaluation 3
- Structural Variations 3
- Expansion of Team Teaching 3
- Program Evaluation 4
- Models 4
- Released Time 5
- School Planning 5
- Comprehensive School Improvement Program 6
- Summary and Conclusions 7

APPENDIX A
- Evaluation of Achievement 8
- Evaluation of Adjustment 11
- Summary 14

APPENDIX B
- Models for Team Teaching 15
  - Setting 15
- Team Structure 17
- Roles 17
  - Principal 17
  - Team Leader 18
  - Cooperating Teacher 21
  - Beginning Teacher 22
  - Teacher Aide 22
  - Relationships 25
- Instructional Program 27
  - Planning 27
  - Implementation 29

APPENDIX C
- Mathematics Workshop 34

APPENDIX D
- Reallocation of Funds for Teaching Teams 36

CHAPTER I

SUMMARY OF FIRST TWO YEARS

PURPOSE

The purpose of the Norwalk Plan of Team Teaching is to improve the instructional program for pupils through changes in grouping practices, curriculum and instructional techniques, and by making a more effective use of teacher strengths, interests and talents.

The redeployment of personnel and salaries possible in the team organization attempts to create new careers for teachers with increased prestige, status and salaries, without affecting the costs of education. Descriptions and examples of the redeployment of salaries are shown in detail in appendix D, page 36.

GROWTH OF THE PROGRAM

Originally, Norwalk Plan teams were composed of three members - a team leader, a cooperating teacher, and a teacher aide. They were organized only in those schools where there were at least seventy-five children at one grade level.

During the first year of the program, 1958-59, there were only four teams, two at the second-grade level and two at the fifth-grade level. During the second year there were seven teams in operation and all the grades from two through six were included.

During the 1960-61 school year, nine elementary schools and one junior high school participated in the program. Two of these elementary schools were completely organized for team teaching in grades one through six. In the junior high school, a language arts-social studies team worked with students in grades seven and eight.

Thus, during the three year period from 1958 to 1961, the program grew from a modest beginning of four teams working with approximately 300 children to sixteen teams working with 1,762 children. Teacher interest in participating in team teaching kept pace with and exceeded this rapid growth. At the start only eleven local teachers indicated an interest in taking part in the program. At the end of three years, 140 teachers indicated they would like to be actively engaged in team teaching.

STUDIES AND OBSERVATIONS OF THE FIRST TWO YEARS

ACHIEVEMENT TESTS

During the first two years of the study, standardized achievement tests were administered to all of the children in the schools in which team teaching programs were in operation. The children in the conventional classrooms served as controls for the children who were in team programs. Except in some isolated instances, there were no statistically significant differences

in the mean gain between the experimental groups and the control groups. What was significant, however, was that the new organization was able to do as well for children, in terms of test results, as separate self-contained classrooms. The team members were able to accomplish this in spite of the problems connected with developing a new program.

ADJUSTMENT STUDIES

All of the data gathered during the first two years of the study show that pupils adjust very well to a team organization. The California Test of Personality was used as a screening device, and teacher judgment was used to determine the adjustment of children in the teams. Their previous records in the self-contained classrooms were compared. In the majority of the cases there was no change in the adjustment pattern. There were some children who appeared to be less well-adjusted, but there were more who seemed to be better adjusted. The evidence seemed to indicate that children do adjust readily to more than one teacher and to larger numbers of children.

TEACHER OBSERVATIONS

Local teachers not in team teaching were given opportunities to visit and to evaluate the program. Even though many of these teachers themselves expressed little interest in participating in the program, the majority of them saw advantages for both the pupil and the teacher. Among the advantages most frequently mentioned were freedom from clerical chores, opportunities to work in areas of strength, and opportunities to work with one group at a time. A complete description of this study is included in the first annual report.

OTHER STUDIES

Other activities during the first two years included interviews with teachers participating in the program, parent and pupil polls, and diary studies. Detailed descriptions of these activities were included in the first and second annual reports. The diary studies were used to formulate models for team teaching, which are described in a later portion of this report.

CHAPTER II

THE 1960-61 SCHOOL YEAR

The third year of operation of the Norwalk Plan was characterized by a variety of developments, some directly associated with team teaching and others that were outgrowths of the pioneering atmosphere developed in the staff by the activities of the previous two years.

PUPIL EVALUATION

Much time was, of course, devoted to a continued study of the effectiveness of the team organization in improving the instructional process for children. An important part of this continued study was carried on through a program of evaluation in which standardized achievement tests played a prominent role. The information gained indicated that children can and do thrive within a team teaching framework. These tests do not provide information in the areas of art, music and physical education. Nor do they measure all attitudes, skills and appreciations. These limitations seriously hamper a true evaluation of team teaching since subjective evaluations tend to express the feeling that there is much opportunity in the team organization for enriching the program of individual students.

A general summary of the program of evaluation is shown on page 4. A detailed analysis of the achievement testing program is included in appendix A.

STRUCTURAL VARIATIONS

During the first two years of the study all teams had the same three-member structure, namely, a team leader, a cooperating teacher and a teacher aide. The team worked with approximately seventy-five pupils at one grade level. In 1960-61 some teams were enlarged to four and five members with proportionately larger numbers of pupils. In several instances these pupils were drawn from two adjacent grade levels. This made possible considerable exploration of the feasibility of crossing grade lines in grouping children for instruction.

Another important variation in the team structure was the addition of part-time professional instructional help. The redeployment of funds for a teaching station, which is a characteristic of the Norwalk Plan of Team Teaching, resulted in $1500 in additional funds being available to a three-member team for this purpose. $1000 was available to a four-member team, and $500 to a five-member team. Table I of appendix D, page 36, shows possible redeployment of funds for teams ranging in size from three members to eight members.

EXPANSION OF TEAM TEACHING

In addition to the structural changes which made it possible to cross grade lines and to include larger numbers of pupils and teachers in a single team structure, two important expansions of the team approach took place in 1960-61.

PROGRAM EVALUATION

Type of Instrument	When Given	To Whom	General Result
General Achievement	Fall & Spring	Elementary Grades, Team and Control Groups	Little difference in achievement and control groups
General Achievement	Fall & Spring	Grades 7 & 8, Team only	Gains far exceeded national norms in Grade 7; gains less apparent for Grade 8, but many hit test "ceiling"
Special Spelling Test	Spring	Grades 5-8, Team and Control Groups	Dramatic superiority of Team Groups on tests in Grade 5; no significant differences between Teams and Control Groups in Grade 6 (test may have been too easy for this level)
Personality Adjustment Test	Spring	Pupils who had been in Teams for two years	Significant improvement in adjustment, both boys and girls, girls being outstanding
Adjustment Questionnaire	Fall	Ponus Ridge 7th Graders (118 former Team pupils, 108 pupils who had never been in a Team	Evidence that Norwalk Plan pupils were "bothered less" during their first months in junior high by the large number of pupils, by the large number of teachers, and by the numerous different classes than the pupils who had not had team experience

Team organization was extended to the secondary school level with the formation of a team in the language arts-social studies area, which worked with seventh and eighth grade pupils.

The second expansion was the organization of two elementary schools on a complete team basis for grades one through six. This made it possible to begin observation of the effectiveness of the team set-up from the standpoint of an administrative organization as well as an instructional organization.

DEVELOPMENTS

MODELS

The major emphasis of the research activities for 1960-61 was placed upon the

development of models for team teaching. The models, which may be found in complete form in the appendix, are descriptions of the organization and structure of the program. They serve to describe the significant operations of the program which permit it to be evaluated or compared with other types of programs. They also serve as a guide in the establishment and development of similar programs in the future. Since team teaching is a developmental program in Norwalk, these models will be subject to continuous modification.

Included in the models are definitions and descriptions of team teaching; team organization and structure, including the financial structure; the responsibilities, qualifications, and selection procedures associated with each team position; an analysis of the relationships and lines of responsibilities within the team; the major instructional procedures identified with the implementation of a program of team teaching and a description of the physical set-up and equipment.

Released Time for English Teachers - Social Studies Teachers 1960-61 School Year

During the 1960-61 school year, funds were provided so that five English and Social Studies teachers could be released one period a day in order to spend time in planning and making preparations for the 1961-62 school year.

Staff meetings were held with this group, with members of the supervisory staff from the Central Administration offices and with selected consultants who were used for in-service training of these five teachers. Much time was spent in reviewing established programs both in the Norwalk Plan at the elementary level and programs provided in other secondary schools. Some visitation was provided on an individual and selected basis.

Items that came up for discussion included problems of variable scheduling, sizes of instructional groups, length of classes, grouping of pupils, teacher load, back-to-back scheduling, team teaching, and the role of technicians, clerks, community consultants and other paraprofessional personnel. The use of mechanical and electronic aids was a definite part of the in-service training. Much of the work done was on an individualized basis or with small groups of teachers.

As a direct outgrowth of this work and planning, a program was instituted for the eleventh grade Language Arts-American History classes. Tentative plans for team teaching of sophomore English during the 1962-63 school year was a net result of some of this planning.

Although it would be difficult to evaluate the effects of this released time, there is little doubt that it has largely influenced the attitude of teachers towards team teaching, not only in the English and Social Studies fields, but in all areas of the school.

SCHOOL PLANNING

Naramake:

Developments associated with the Norwalk Plan program extended to the area of school construction during 1960-61 as Norwalk completed plans for a new ele-

mentary school to be opened in 1962. Members of the school staff associated with team teaching worked closely with architects and school planners in developing both the general layout and classroom details for the new Naramake School. When construction is completed in 1962, the building will be one of the first in the east especially designed to meet the needs of team teaching.

COMPREHENSIVE SCHOOL IMPROVEMENT PROGRAM

An important outgrowth of the Norwalk Plan during the 1960-61 school year was the development and presentation to the Norwalk administrative staff of the concept of a comprehensive school improvement program. This program was prepared and presented by the Norwalk Plan Steering Committee. In their written presentation to the staff the committee stated:

> "During the current year, then, we are concerned not only with the extension of team teaching but are planning on a much broader scale. We are looking toward any and all promising means of improving our schools - the curriculum, the facilities, the methods and materials of instruction, as well as the staff; and we are concerned with the co-ordination of all our efforts into a comprehensive school improvement program."

The program suggested research and development in the areas of:

(1) better utilization of staff
(2) curriculum improvement
(3) more flexible grouping and scheduling practices
(4) increased use of equipment and facilities

This emphasis on school improvement resulted in the formation of a number of plans for the 1961-62 school year covering instruction and organization at many grade levels and in a variety of subject areas. Although many of these cannot be called a direct part of the Norwalk Plan of Team Teaching, they are a very real testimony as to its catalytic effect on the Norwalk School System.

One of the projects developing from this emphasis on school improvement was a workshop during the summer of 1961 for teachers who were to participate in a School Mathematics Study Group project. The workshop was devoted to a study of the background of the SMSG program and the techniques for implementing the program in Norwalk. Details of the operation of this workshop are contained in the appendix of this report.

SUMMARY AND CONCLUSIONS

The rapid growth of the Norwalk Plan of Team Teaching, over a three year period, has made it mandatory to focus attention on problems of organization, on changes in instructional technique, and on the development of the roles of team personnel. In addition to this sizable task, it has been paramount that sufficient evaluation be conducted to assure school personnel and parents that children achieve as well and adjust as well as do children in the self-contained classroom. The limited instruments of measurement that are available have made it impossible to show superior achievement. It has been shown that children achieve as well academically as in the self-contained classroom. There has also been evidence to show that children who have had team teaching in the elementary school make a better adjustment to the junior high school situation.

It has become increasingly obvious that teachers find careers in team teaching more attractive. The opportunity to work in their areas of greatest talent and interest, freedom from some of the many clerical and routine chores of teaching, and the fact that team teachers' salaries compare favorably with administrative salaries in the state have all contributed to the attractiveness of team teaching positions.

Up to this point, teachers have been somewhat restricted in their attempts to break down grade barriers. Both teachers and administrators have been cautious in attempting to invade the curriculum of higher grade levels. Crossing grade lines in a downward direction has been a far more common practice than crossing in an upward direction. There is much evidence that consideration needs to be given to the proper balance between enrichment activities and acceleration. The fact that this is becoming an increasingly pressing problem may be taken as positive evidence that team teaching is proving to be an effective instructional organization.

Studies made in Norwalk have shown that team teaching is successful. It has provided new careers for teachers; it has shown that teacher time and talent, heretofore, have been wasted on tasks that can easily be performed by teacher aides; it has shown that when teachers are permitted to break the lock step of the graded school concept, improved instruction results.

The Norwalk Plan has been a catalytic agent for improved instruction in the entire school system. It has stimulated the use of newer audio-visual devices and instructional material. It has fostered a more concerted effort on curriculum revision, improved instructional techniques, more flexible grouping practices and more cooperative effort on the part of teachers not directly participating in team teaching. In short, the plan has had many positive effects both within and without the program.

APPENDIX A

Evaluation of achievement

As in the past two years, standardized achievement tests were administered to all pupils in the nine Norwalk Plan schools whether or not they were actually in a team. The "non-team" pupils served as controls for the "team" groups.

Otis Quick-Scoring Mental Ability Tests were administered in Grades 1, 2, 4 and 6 in these schools in the fall. (IQ's for pupils in the remaining grades were obtained from administration of this test the previous year.) Appropriate levels of the Metropolitan Achievement Test[1] were administered in the fall as part of the regular city-wide testing program and in a special program in the spring.

In the spring, pupils in Grades 5 through 8 also were given a special spelling test. Separate recognition and recall scores as well as a total score were obtained. This test was given in order to tap achievement not fully covered by the standardized achievement tests.

The control groups. Control groups for each Norwalk Plan group were set up by the matched pairs technique on the basis of IQ. Wherever groups were composed of pupils of more than one grade level, separate control groups were set up. Thus, for a Grade 3-4 team, two control groups were established - one, a control for Grade 3; another, a control for Grade 4.

Control group pupils were drawn in a random fashion from among the non-team pupils at the particular grade level under consideration. For example, pupils serving as controls for Jefferson, Grade 3, were drawn from Grade 3 classes in Broad River, Columbus, Honeyhill, Magrath and Kendall, but not from Nathaniel Ely, Fox Run or Rowayton since the latter schools have Grade 3 teams.

In Grades 1-6, a total of 26 separate control groups were established. Because of the manner in which the "control" pupils were drawn, i.e., by matching pupils (instead of groups) from many different classes, the "teacher" and "socio-economic level" variables may be considered to be minimized considerably.

Analysis of data. The fall to spring gain was obtained for all of the Metropolitan Achievement Tests for all Norwalk Plan and control groups. In the case of the spelling (Grade 5-6) test which was administered only in the spring, differences in mean raw scores were obtained.

In Table 1, a distribution of differences, in mean gain by subject, on the Metropolitan Achievement Tests (in terms of grade equivalents) between all Norwalk Plan and control groups in Grades 1-6 is presented. It shows, by subject, the distribution and total number of differences in favor of the Norwalk Plan groups (indicated by +) and their controls (indicated by -). The bottom row of the table shows the number of gain differences which were found to be significant.

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[1]Published by Harcourt, Brace & World, Inc., New York

Table 1. Distributions of Differences by Subject in Mean Gain on Metropolitan Achievement Tests between Norwalk Plan and Control Groups

Gain Diff. (Gr. Equiv.)	Word Know.		Word Dis.		Read-ing		Spell-ing		Lang-uage		Lang. Study Skills		Arith. Comp.		Arith. Prob.		Social Study Infor-mation		Social Studies Study Skills		Science	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
1.20 - 1.29							1														1	
1.10 - 1.19																						
1.00 - 1.09																						
.90 - .99									1													
.80 - .89					2									2				1				1
.70 - .79														1		2						
.60 - .69	1	1		1						1	1			1		1						
.50 - .59		1					2	1		1				1		3	2	1		2		
.40 - .49		1			1		2	1		4	2	1	1	2			2					
.30 - .39		2				2	2	1	1	2	1		3	3		1						1
.20 - .29	4	3	1		6	3	2	1	2	2	1		2	2	2	3	1		2	1	1	
.10 - .19	2	2	1	2	4	5	3	3			1	2		2	3	3		1		1	2	2
.01 - .09	5	4	3	6	3		3	2	3	3	1	1	1	3	2		1	1		2	2	1
N	12	14	5	9	16	10	15	9	7	13	7	4	7	17	7	13	6	4	2	6	6	5
No. Signif.	0	1	0	1	1	1	1	0	1	0	0	0	0	3	0	3	0	1	0	0	1	1

9 No gain

These data show that, except for the area of arithmetic, there is little difference in achievement between the Norwalk Plan and control groups in the subject matter and skill areas covered by the Metropolitan Achievement Tests. More differences favor the Norwalk Plan groups in Reading, Spelling, Language Study Skills, Social Studies Information and Science, while more differences favor the control groups in Word Knowledge, Word Discrimination, Language, Arithmetic Computation, Arithmetic Problems and Social Studies Study Skills. Except for the arithmetic area, few of the differences are significant.

Table 2 summarizes the results obtained from administration of the special spelling test. The test contained 120 items, 60 of which were of the recognition type and a like number of the recall type. Separate recognition and recall scores were obtained as well as a total test score.

Table 2. Summary of Mean Raw Score Differences between Norwalk Plan and Control Groups on Spelling Test for Grades 5 and 6

School	Mean Differences in Grade 5			Mean Differences in Grade 6		
	Recognition	Recall	Total	Recognition	Recall	Total
A	+ 5.2*	+ 5.2	+ 12.8*	- 3.8	+ 3.8	+ 4.8
B	+ 4.7*	+ 3.7	+ 5.6	- .57	- .84	- .95
C	Not in Plan			- 1.4	- .57	- 2.3
D	+ 5.1*	+ 6.5*	+ 11.8*	+ .55	- .40	+ .52
E	+ 4.4*	+ 1.8	+ 6.8	Not in Plan		
F	+ 1.5	- 1.1	- 2.9	Not in Plan		

*Significant at 5% level

The data show a dramatic superiority of Norwalk Plan groups over the control groups in Grade 5. Fourteen of the fifteen differences were in favor of Norwalk Plan groups, seven of them significant at the 5% level. There were, however, no significant differences at the Grade 6 level. This may be due largely to the fact that the test proved to be too easy for the various sixth grade groups. In general, results obtained on this test and the standardized spelling test were in substantial agreement.

Team teaching was introduced at the junior high school level for the first time in 1960-61. One team of teachers provided instruction in language arts-social studies to two pupil groups - one a Grade 7 group and another a Grade 8 group. These pupils were given the Metropolitan Achievement Test both fall and spring. Mean grade equivalent gains are shown in Table 3, page 11. No control groups were set up for comparison purposes. Very good gains were made by Grade 7, with the exception of Social Studies Information. The greatest gain was made in spelling, approximately twice that of the norm group.

Table 3. Summary of Mean Grade Equivalent Gains on the Metropolitan Achievemer Test for Brien McMahon Grade 7 and 8 Norwalk Plan Language Arts-Socie Studies Teams

Test	Grade					
	7			8		
	Fall	Spring	Gain	Fall	Spring	Gain
Word Knowledge	8.06	9.28	1.22	9.14	9.89	.75
Reading	7.80	8.89	1.09	8.65	9.29	.64
Spelling	7.21	8.63	1.42	8.57	9.59	1.02
Language	7.73	8.97	1.24	8.67	9.49	.82
Lang. Study Skills	8.56	9.50	.90	8.97	9.87	.90
Social Studies Info.	7.99	8.53	.54	8.35	9.27	.92
S.St. Study Skills	7.63	8.77	1.14	8.57	9.36	.79

Grade 8 gains do not show up to be as great as those made by Grade 7. The main reason for this is that the test proved to be too easy for them, more than 50% of the group making perfect scores in all areas tested in the spring. In Language Study Skills, 85% of the group had perfect scores in the spring. It should be noted that the greatest gain was also in Spelling.

Evaluation of Adjustment

During 1960-61 objective information concerning the adjustment of pupils in teacher teams was obtained mainly from two sources: (1) readministration of the California Aspects of Personality[1] in the spring of 1961 to those who had taken this test in the spring of 1960, and (2) administration of a questionnaire to Grade 7 pupils who had been members of teacher teams in elementary school.

Results of readministration of the California Aspects of Personality. Appropriate levels of Form A were administered in the spring of 1960 and Form B in the spring of 1961 to those who had been in teacher teams both years. Personal, Social and Total Adjustment scores were obtained. Changes in adjustment over the year (from spring to spring) were analyzed separately for boys and girls. There were a total of five Norwalk Plan groups so studied - one group in Grade 3, two groups in Grade 4, one group in Grade 5, and one group in Grade 6 in 1961. These groups were, of course, one grade level lower in 1960. Table 4 summarizes the changes in adjustment for these groups.

[1]Published by California Test Bureau, Los Angeles, California.

Table 4. Changes in Personal, Social and Total Adjustment Scores of Five Norwalk Plan Groups from the Spring of 1960 to the Spring of 1961

SEX	Pers. Adj.		Soc. Adj.		Tot. Adj.		Tot. All factors		Tot. Significant*	
	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss
Boys	3	2	3	2	3	2	9**	6	6	3
Girls	5	0	3	2	4	1	12**	3	5	1
Total	8	2	6	4	7	3	21**	9	----	
No. significant*	4	1	2	2	5	1	----		11	4

*At 5% level.

**Gains over losses for boys significant at 5% level; for girls and total, significant at 1% level according to Chi-square tests.

Overall, the data show a significant improvement in both Personal and Total Adjustment, with little or no change in Social Adjustment. It is interesting to note that although both boys and girls showed improvement, the adjustment of the girls was outstanding.

Adjustment of junior high school. Approximately two months after the beginning of school, a questionnaire was given to 226 seventh-grade pupils in Ponus Ridge Junior High School. Of these, 118 had been members of a Norwalk Plan group in elementary school. The data are summarized in Tables 5 and 6.

Table 5. Differences in Initial "Liking for School" between Norwalk Plan and Non-Norwalk Plan Groups

Group	Like School		Don't Like School		Total	
	N	%	N	%	N	%
Norwalk Plan	96	82	22	18	118	100
Non-Norwalk Plan	79	73	29	27	108	100

According to the questionnaire responses, a larger, though not significant, percent of the Norwalk Plan pupils (82) liked junior high school than did non-Norwalk Plan pupils (73). Table provides evidence that Norwalk Plan pupils were bothered less during their first months in junior high by the large number of pupils, by the larger number of teachers, and the numerous

different class and study rooms than were their non-Norwalk Plan counterparts. For example, only 14% of the "Norwalk Plan" pupils stated that they were bothered in junior high school by the large number of pupils in the school, whereas 32% of the non-Norwalk Plan pupils stated that they were bothered.

Table 6. Differences in Initial Adjustment to Aspects of the Junior High School between Norwalk Plan and Non-Norwalk Plan Groups

Group	Many pupils				Several teachers				Several rooms			
	Bothered		Not bothered		Bothered		Not bothered		Bothered		Not bothered	
	N	%	N	%	N	%	N	%	N	%	N	%
N.P.	17	14	101	86*	17	14	101	86*	15	13	103	87*
Non-NP	35	32	73	68	33	31	75	69	29	27	79	73

*Significant at 1% level.

SUMMARY

Team teaching in Norwalk, begun in the fall of 1958, has been highly developmental in nature. Many changes have been made as a result of day-by-day experiences of team members and of the evaluation of many observers. Adjustments have also been made to meet the needs and to accommodate the limitations of individual schools. It is only now that elements of the Norwalk Plan have become crystallized to the point where it is possible even to describe them.

During this period a wide variety of information has been gathered from many sources. A relatively small portion of this information has been summarized in previous reports. So far as the pupils are concerned, an attempt has been made primarily to be reassured that they were not suffering achievement and adjustment-wise in comparison to other pupils in our schools. In other words, it was to determine whether the pupils in teacher teams achieved and adjusted as well or better than pupils in a self-contained type of organization.

APPENDIX B

MODELS FOR TEAM TEACHING

I. SETTING

Models for team teaching are descriptions of the organization and structure of the program. They serve very useful purposes: (1) to describe the significant operations of the program which permit it to be evaluated or to be compared with some other type of program. (2) to serve as a guide in the establishment and development of similar programs in the future. Naturally, because of the developmental nature of team teaching in Norwalk, the models presented will be subject to continuous modification. Some elements of team teaching have become crystallized to the point where it is now possible to set down definite statements about various aspects. However, this is not true for many other elements of the program. The statements which follow here were developed with the help of team leaders and from a summary of diaries kept by all team members for one year.

Definition of Team Teaching

It is important to set forth at the beginning the essential characteristics of team teaching as practiced in Norwalk. In general, team teaching is one of the major methods of organizing for instruction, others being the self-contained classroom, departmentalization, exchange and cooperative teaching. In a self-contained type of organization, practiced mainly at the elementary school level, one teacher who is assigned to a certain number of pupils is responsible for the entire educational program of these pupils. In a departmentalized organization, teachers are assigned to instruct a certain number of classes in one or more subjects. Thus, a teacher may be assigned five classes of biology, while another may teach three classes of Algebra I, and two classes of Algebra II.

In team teaching, as the term implies, several teachers cooperate in providing the instruction for a particular number of pupils. The team may consist of a number of members, one or more of whom may be classified as sub-professional. In team teaching the staff organization is one in which there is differentiation in responsibilities and duties. It may be helpful to distinguish team teaching from other kinds of arrangements which are often referred to as team teaching.

The first is "cooperative" teaching which involves two or more teachers at the same or different grade levels who join together in an "equal partnership" relationship to provide for the instruction of the classes of both teachers.

Another variation might be referred to as "exchange" teaching in which two or more teachers merely exchange teaching assignments. For example, one teacher who is strong in art may teach art to the pupils of another teacher in exchange for instruction in music by the second teacher. In such an arrangement, however, the classes involved are seldom, if ever, taught as a unit and there is no cooperative planning by the teachers involved. In Norwalk, at the present time, team teaching

consists of the following essential characteristics:

1. Teams consist of at least three members, one of whom is designated as the team leader, and another is a non-professional teacher aide. Each team consists of at least one cooperating teacher.

2. Team leaders receive $1000 and cooperating teachers $500 in addition to regular salaries. Aides are paid according to salaries for comparable clerical positions.

3. Stipends for teachers and salaries of aides and part time teachers are paid through the redeployment of the funds allotted for one teacher station, resulting in no increased cost for education.

4. Size of pupil groups vary but are based on a ratio to each full time adult on the team. The ratio is the same as that for a self-contained classroom.

Team teaching, so organized, is intended to result in:

1. a division of teaching functions (Specialization)

   The purposes of specialization are:

   a. to permit teachers to function in areas of greatest competency and interest

   b. to provide opportunities for growth and development in specialized areas of teaching

   c. to provide the best available instruction for all pupils in all curriculum areas

   d. to keep competent teachers in the classroom through inducement of specialization.

2. cooperative planning

   a. provides for better integration of learning experiences

   b. provides for better organization of resources including instructional materials, instructional equipment, and physical facilities.

3. differentiation of "teacher" tasks according to level and type of training required.

   a. permits teachers to spend more time with instructional tasks.

   b. provides teacher aides to perform non-instructional routine tasks.

4. flexible grouping arrangements

   a. through cooperative planning the sizes of groups will change

according to the material being taught and instructional procedure used.

5. wide use of appropriate mechanical and electronic aids

   a. teacher aides can be trained to use audio visual devices and to prepare instructional materials under the direction of the teacher

   b. teacher aides can supervise groups of children who are receiving instruction through the use of tape recording and earphones

   c. team teachers develop instructional materials cooperatively and use them with large numbers of children.

6. increased status and prestige of teachers

   a. new career opportunities are available to teachers through change in role

   b. higher salaries are available through a different use of funds.

II. TEAM STRUCTURE

As has been pointed out, all teams must consist of one team leader, at least one cooperating teacher, and at least one non-professional teacher aide. In addition, a team may consist of one or more of the following:

(1) beginning teacher
(2) part-time teacher

A beginning teacher is a fully certificated teacher who has had no previous teaching experience. A beginning teacher receives no additional stipend. A part-time teacher works on an hourly basis and teaches in an area determined by the team according to its need.

The exact composition of teams for various sizes of pupil groups is shown in Table I., page 36. The table also shows the financial arrangements based upon an average teacher's salary of $6000.

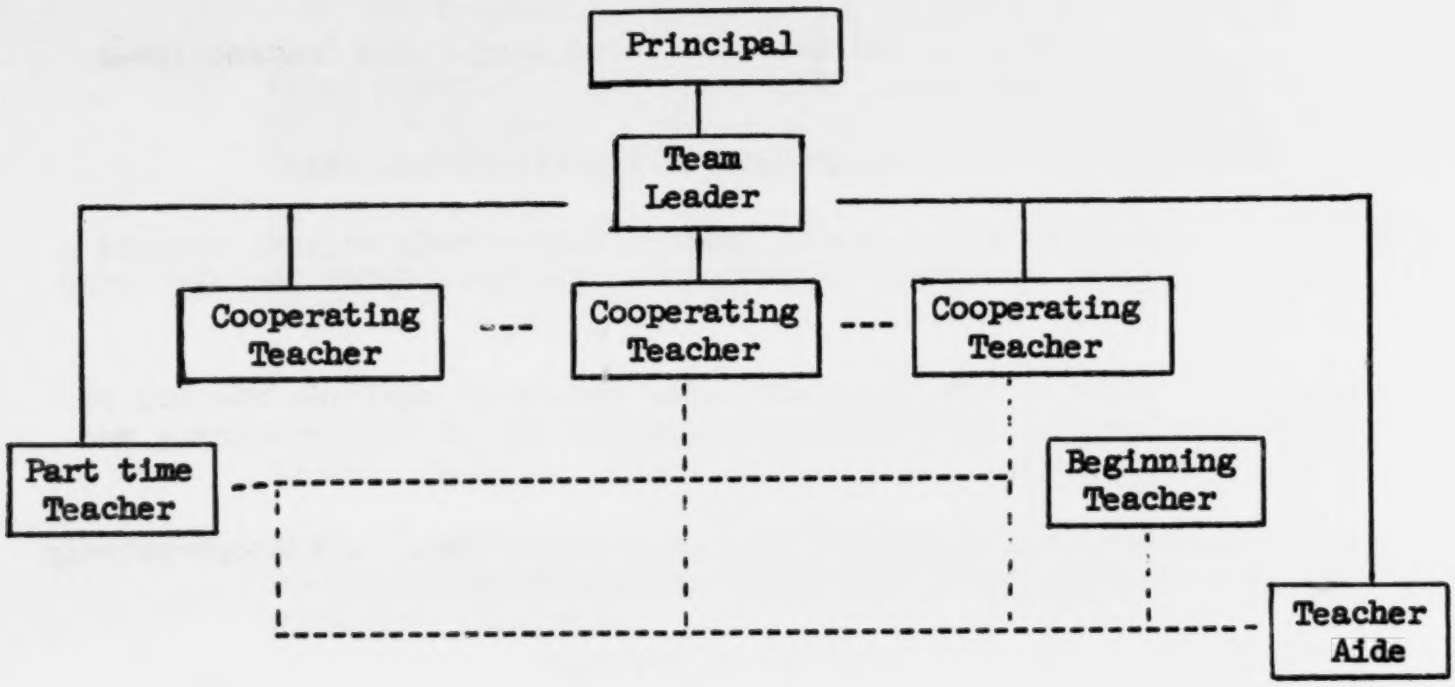
Lines of relationship among members of a typical team are charted on the next page.

III. ROLES

A. Definition

1. Principal

In several ways the job of principal is different in a school



_____ Lines of direct responsibility

---------- Lines of cooperation

organized on a team teaching basis than in a conventional organization. In one sense, team leaders operate similarly to assistant principals, sharing certain administrative and supervisory responsibilities with their principal. The team leaders and the principal form an administrative council through which many decisions are made. Many of the routine clerical and pupil personnel problems which typically are handled in the office of the principal are handled within the teams. This leaves the principal relatively free for supervision, in-service training, and public relations duties.

There are several critical qualifications for principals of schools organized for team teaching. They include:

(1) educational vision
(2) leadership qualities
(3) ability to delegate responsibilities
(4) skill in public relations

In Norwalk, the selection of principals, in whose schools teams will be organized, is tied in with the adequacy of the schools' physical facilities and the interest and readiness of the principal and his staff. (Criteria for the selection of new principals for schools organized for team teaching still need to be worked out.)

Team Leader

As the title implies, the team leader is the administrative

and supervisory head of his team. All other team members are directly responsible to him. He, in turn, is responsible directly to the principal.

Qualifications for the position of team leader include:

1. Minimum of a Bachelor's degree (Master's preferred).

2. Minimum of three years successful teaching experience, one of which, preferably, has been in Norwalk.

3. Evidence of leadership ability (as demonstrated by committee work, etc.).

4. Special strength in at least one subject matter area.

5. Willingness to participate in workshop and other in-service programs.

Selection procedure consists of the following steps:

1. Application submitted by teacher.

2. The determination that applicant meets the basic eligibility requirements (evidence obtained from teacher personnel file).

3. Initial screening by director of team teaching program, general supervisor of instruction, and director of teacher personnel.

4. Submission of evaluations by principals, coordinators, and supervisors.

5. Classroom observation and interview with applicant by selected principal(s).

6. Final selection by steering committee and principal.

Job description of the team leader:

A. Administration:

   1. Organize the program of instruction to make the fullest use of each team member. Reorganization will often be necessary according to the needs of the children.

   2. Organize the program to make it possible for each team member to observe the other members of the team working with children. Provision for released time for team members will make for better planning and coordination of pupil activity.

   3. In cooperation with principal, set up a system of requisitioning supplies and equipment for the team.

4. In cooperation with principal, arrange duty schedules for the team.

5. Set up a system of communication among team members and between the team and the administration to keep everyone informed of significant problems and developments within the team.

6. Set up a system, in cooperation with the principal, for communicating to parents.

7. Choose from the accepted list of aide's duties those which need to be performed in a particular team.

B. Supervision:

1. Set up a systematic method of planning which will include all team members.

2. With the assistance of the cooperating teacher, decide when and how subject matter may be integrated.

3. With the assistance of each team member, decide the role each shall play in total group instruction, large group instruction and for small group or individual instruction.

4. Coordinate the services of special personnel.

5. In cooperation with other team members, set up standards for pupil behavior.

   a. Give each member, including the aide, freedom to implement these standards.

   b. Train the child to look for guidance to the adult who is in immediate control - this includes the aide.

   c. When differences of opinion arise among team members, the team leader should settle them in conference with those involved.

   d. The team leader should support the other members of the team in any interaction with pupils.

6. Set up a system for the evaluation of pupil growth and progress - this includes parent conferences.

7. Make use of the techniques developed by other teams when they are applicable.

8. Be prepared and willing to experiment with new ideas.

C. In-Service:

1. Attend meetings called by the Director of the Norwalk Plan.

2. Share ideas, instructional materials and successful practices with other teacher teams.

Cooperating Teacher

The cooperating teachers work closely with the team leader in all phases of the instructional program - planning, implementation, and evaluation - but the team leader has final decision-making authority.

Qualifications for the position of cooperating teacher include:

1. Minimum of Bachelor's degree.

2. Minimum of one year's successful teaching experience, preferably in Norwalk.

3. Special strength in at least one subject matter area.

4. Willingness to participate in workshop and other in-service programs.

The selection procedure for cooperating teachers is the same as that of team leaders.

Job description of the cooperating teacher:

1. It is the responsibility of the cooperating teacher to become fully informed of the administrative and supervisory functions of the team leader.

2. The cooperating teacher, in conference with the team leader, should learn the duties of the teacher aide for the particular team.

3. The cooperating teacher should work with the team leader in planning an integrated program of instruction.

4. The cooperating teacher should work with the team leader in setting up standards for pupil behavior.

5. The cooperating teacher should work with the rest of the team in evaluating pupil growth and progress.

6. The cooperating teacher should work with the team leader and director of "The Plan" to develop and use efficient techniques for the organization of instruction.

Beginning Teacher

It is not expected that a beginning teacher will make the same contribution as a teacher with one or more years of experience, but he will be in an excellent position to grow in competence through association with other team members. His job description is similar to that of the cooperating teacher.

Teacher Aide

The teacher aide performs a variety of functions of a non-professional nature normally performed by teachers themselves. The aide, therefore, makes it possible for the teachers to devote full time to professional tasks.

Two major kinds of services are provided: (1) those in which the aide has no direct contact with pupils, and (2) those in which the aide does have direct contact with pupils. The former includes such duties as clerical work, correction of tests, and procurement or preparation of instructional materials. The latter includes assisting pupils in locating reference materials, giving teacher assignments, and monitoring taped lessons and independent activities.

Qualifications for the position of teacher aide include:

1. Possession of at least a high school diploma.
2. Clerical skills.
3. Experience in working with children.

Selection procedure consists of the following steps:

1. Application submitted by candidate.

2. Initial screening by director of team teaching program.

3. Evaluation of credentials by director of team teaching program and selected principal(s).

4. Interview with selected principal(s).

5. Final selection by principal and director of team teaching program.

List of teacher aide's duties:

1. Keep attendance record.
   Take daily attendance to office.
   Mark daily attendance in registers.
   Balance register in pencil. Ink in when checked by principal.
   Mark attendance on report cards, permanent records and transfer cards.

List of teacher aide's duties: (continued)

2. Copy report cards.
   Prepare both duplicate and permanent report cards, with name, grade, etc.
   Copy marks on permanent cards. Copy in remarks.
   Prepare envelope and check cards in.

3. Collect milk money, bank money, and lunch money.
   Supervise collections, class dues.
   Be responsible for safekeeping of funds.

4. Inventory books and supplies.
   Help teacher check materials and books used directly by children.
   Check all supplementary materials.
   Make out all inventory forms.

5. Submit requisitions for supplies.
   Get special orders for supplies from teachers.
   Be responsible for routine supply order.

6. Check class lists. (Revise when necessary)

7. Enter information on cumulative records (including tests)
   (Not marks and teachers' comments)

8. Prepare registration cards.

9. Give out lunch tickets.
   Keep track of absentees for lunch tickets.

10. Prepare transfer cards. (Not academic and behavior progress)

11. Assist copying information on health cards.
    Add communicable diseases as they occur.

12. Keep files of children's work.
    (Material to be saved to be selected by teachers)

13. Assist in operating AVA machines.

14. Prepare and run off duplicator materials.
    (Plans, mimeographed pages, reading tests, seatwork, book lists, et

15. With direction from the teacher, secure pictures, books, art supplies and other illustrated materials for lessons taught by teacher.

16. Make charts planned by teacher.

17. Prepare classroom displays (materials to be selected by teacher).
    (Bulletin boards, art work, book tables, decorate for holidays.)

List of teacher aide's duties: (continued)

18. Make entries prepared by teacher on chalkboards.
    (General plans, announcements on chalkboard bulletin)

19. Correct objective written work (no evaluation involved).

20. Type weekly schedules of activities.

21. Handle routine interruptions; i.e., notes from other teachers, messages and deliveries. Make routine phone calls.

22. Assist the teacher in checking to see if seatwork activities are completed. Check to see that written assignments are handed in.

23. Assist the teacher in checking books during library periods.
    File distribution cards.
    Care for room library.

24. Assist the teacher in reminding children of assignments.
    Repeat teacher-prepared instructions.
    Report widespread lack of understanding to teacher.
    Inform teacher of lack of understanding of directions or assignments.

25. May assist teacher in such activities as:

    a. use of earphones.
    b. arithmetic and word games where there are definite rules firmly established by teacher.
    c. piano and auto. harp accompaniment on teacher-taught song. (rehearsal situation)
    d. dictate spelling words (make-up).
    e. read a story.
    f. dictate vocabulary tests.
    g. assist with physical education activities.

26. Assist with classroom control.

    a. Refer serious problems to team leader.
    b. Carry out teacher-prescribed disciplinary action for minor infractions.

27. Assist the teacher with lunchroom and playground duties.

    Aide should never have sole responsibility in supervisory capacity. She should always have teacher readily available.

28. Pass out routine notices; i.e., PTA notices, information bulletins.

29. Report evidences of health problems to teachers.

Relationships

In a self-contained classroom organization very simple relationships exist. Only the relationship between principal and each teacher needs to be defined. In a team teaching organization, however, there are a number of staff members, each with a distinct role and at different levels in the hierarchial organization, all of whom are pledged to work together as a team.

Relationships between principal and each team member are outlined below. They are organized in terms of the responsibilities of one to the other.

1. Principal --- Team Leader

The responsibilities here are primarily those of delegation and sharing.

a. The principal delegates to the team leader administrative responsibilities relating to the day-to-day operation of the teams.

b. Through the administrative council, the principal shares responsibility for the total program of the school.

c. The principal shares responsibility for the supervision of the team members.

d. The principal shares responsibility for the development of the instructional program.

e. The principal shares responsibility for the professional growth of teachers.

f. The principal shares responsibility for the interpreting of the program to parents and the community.

2. Team Leader --- Principal

The team leader accepts responsibility for the day-to-day administration of his team.

The team leader shares responsibility for:

a. The total program of the school.
b. The supervision of team members.
c. The development of the instructional program.
d. The professional growth of teachers.
e. Interpreting the program to parents and the community.

3. Team Leader --- Cooperating Teacher

a. Supervision re:

(1) Teaching techniques and subject matter.

(2) Carrying out of duties.
(3) Suggestions for improvement.
(4) Pupil control.

b. Communication of information from principal, coordinators, and director of team teaching program.

c. Meetings for the purpose of:

(1) Developing coordinated lesson plans.
(2) Evaluating pupil progress.
(3) Study of pupil programs.

4. Cooperating Teacher --- Team Leader

a. Carry out instructions of team leader.
b. Refer discipline, guidance or academic problems.
c. Report on all conferences held without team leader.
d. Check subject matter through team leader.
e. Check all work for aide.
f. Share in planning of work.
g. Suggest any ideas for improvement of program.
h. Notify team leader of any change in schedule.
i. Share load of extra-curricular work (reports, meetings, report cards, etc.).
j. Take responsibility for team in team leader's absence.

5. Team Leader --- Teacher Aide

a. Supervision of aide.

(1) See that aide has no teaching responsibilities.

(2) See that duties are carried out:
(a) Clerical
(b) Technical
(c) Building assignments

(3) See that rules for disciplinary measures are carried out.

(4) Inform aide of any faulty equipment or material needed.

b. Planning

(1) Provide ample time for teaching materials to be obtained.

(2) Make certain that work for team leader does not conflict with cooperating teacher's work.

(3) See that aide is present when lessons are being planned.

(4) See that aide fully understands what is expected of her in aiding in instruction.

(5) Complete lesson plans so that aide can prepare them in ample time.

6. Teacher Aide --- Team Leader

a. Carry out all instructions given by team leader (clerical, technical, teaching materials and building assignments).

b. Refer major discipline problems.
c. Supervise children's study periods.
d. Have instructional materials ready on time.
e. See that AVA equipment is available and in order.
f. Contact parents when necessary.
g. Refer any parent problems to team leader.
h. Refer any messages from principal or director.
i. See that aide's room is kept in order.
j. See that all borrowed materials are returned.

7. Cooperating Teacher --- Teacher Aide

a. See that work load of aide is reasonable.
b. Provide ample time to obtain instructional materials.
c. Notify aide of any deviations from routine.

d. See that aide fully understands what is expected of her in aiding in instruction.

e. Notify aide of any faulty equipment.

f. Complete lesson plans promptly so aide can prepare them in ample time.

8. Teacher Aide --- Cooperating Teacher

a. Carry out all instruction given by cooperating teacher.
b. Supervise children's study periods.
c. Have instructional materials ready on time.
e. Contact parents when necessary.
f. Refer any messages from principal or director.
g. See that all borrowed materials are returned.

IV. INSTRUCTIONAL PROGRAM

A. Planning

When teams are formed, teachers are assigned major responsibility for particular areas, depending upon their competence and interest. Thus, one teacher may be assigned major responsibility for language arts and social studies, another for arithmetic and music, another for science, and so forth. In case size of team does not permit all subjects to be covered adequately, the following priorities have been established:

1. At primary level

   a. Reading

   b. Social concepts (play organization, group awareness and participation, development of healthy study attitudes, etc.)

   c. Art
   d. Physical Education
   e. Arithmetic
   f. Music

2. At intermediate level

   a. Academic areas

      (1) Science
      (2) Language Arts
      (3) Mathematics
      (4) Social Studies

   b. Music
   c. Physical Education
   d. Art

Actual planning of lessons and the making of specific teaching assignments is done through two kinds of planning sessions: (1) long-range planning sessions where general work to be covered for at least a two-month period is blocked out and desired articulations discussed; and (2) short-term planning sessions where detailed lesson plans for at least one week in advance (preferably two) are reviewed. In these latter sessions the exact groupings are also decided upon and materials needed are identified.

The manner in which integration of subject areas is achieved is exemplified in the two examples given below:

1. In one meeting, the teacher specializing in science outlined her plans for an upcoming unit of work on "sound" and considered with the other teachers how they might integrate this with other subjects. The teacher told of activities she had planned and the objectives she had in view. The language arts teachers included plans for a poetry session on sounds; a creative thinking lesson on sound; and several handwriting lessons which reviewed some of the objectives. The music teacher built a unit of study around musical instruments and the way they produce sound. Several art and handicraft lessons were planned at the same time.

2. At each weekly meeting the various team members tell of their goals for the following week so that all teachers

will become cognizant of what is going on in all areas in order to apply it in her own instruction at an appropriate time. Thus, after the arithmetic teacher told of teaching ordinal numbers, children were asked to read the first and third lines, etc. Tom, Betty and Susan, children read about in the social studies test, found their way into arithmetic problems, and stories were written about them in language arts.

Planning sessions are held weekly, with additional sessions scheduled as needed. Principals are expected to attend these sessions although the meetings are conducted by the team leaders.

Special meetings between teachers specializing in a particular subject and the coordinator for that subject are also held for the purpose of developing greater competency in an area and for the refinement of teaching techniques.

B. Implementation

1. Scheduling

Scheduling of times of day for various activities is done mainly in the long-range planning sessions. Detailed schedules are finalized in weekly sessions. These schedules are prepared one week in advance.

2. Grouping

One of the main advantages seen for a team teaching organization is the variety of grouping arrangements that can be made. Improvements in typical grouping practices are aimed at better provision for the entire range of talent in a group and better use of teacher time and talents.

For every activity, important decisions must be made concerning (1) the size of the instructional group; and (2) the composition of the group. For our purposes, instructional classifications are as follows: (1) individual, (2) small group, (3) regular class, and (4) large group. There are a number of bases on which groupings may be made. Pupils may be grouped according to skill or ability level, sex, special interest, or heterogeneously. The exact groupings, both as to size and composition, depend upon the nature of the particular activity and the needs of the pupils.

a. Individual

The purposes of an instructional classification for the individual varies with the particular area of the curriculum under consideration. In general, however, it permits:

(1) needed practice to reinforce initial learnings (as in arithmetic).

(2) opportunities to explore in depth areas of special interest (as through reading and research, laboratory experiences, etc.)

(3) development of specialized talents (as in art, music, physical education, etc.)

(4) individual counseling concerning problems.

Independent activities of pupils are directed by the teacher of a particular area, although the activity may be actually carried out under the monitorial supervision of the aide. The teacher and pupil meet together as needed to discuss the nature and goals of the activity and to evaluate progress. The aide assists in locating reference sources, provides materials, checks routine assignments, etc.

b. Small group

The purposes of small group activity (5-10 pupils approx.) are:

(1) to bring together pupils of a similar skill level for the purpose of further developing the skill (as in word analysis).

(2) to permit opportunities for full discussion and exploration of an area of interest (as in a seminar on rocket fuel).

(3) to permit opportunities for pupils to work together on the development of an area (as a social studies committee).

(4) to evaluate status or growth in a skill or subject area (as in oral reading).

Small group activities are conducted by various team members even though they may not be the teachers assigned major responsibility for a subject.

c. Regular class (20-30 pupils approx.)

1. Some of the activities may fall into the previous classification.

2. Others may be similar to large groups, depending upon what is being taught.

d. Large group

The purposes of large group instruction are:

(1) to provide for more efficient use of mechanical aids and community experts.

(2) to provide higher quality instruction because of time available for preparation.

(3) to save staff time by eliminating repetition.

(4) to provide a setting for presentation of a common foundation of knowledge.

(5) to free staff for other activities (preparation, planning, conferences, etc.).

Large group activities are carried on under the direction of the teacher with major responsibility for an area although this person may not serve as the instructor. Instructors may be any teacher, a subject coordinator, a special resource person or, in the case of a debate, recital or demonstration, pupils themselves.

Planning for large group activities involves all the team members. Decisions to be made include:

(1) the making of staff assignments (this includes deciding who will make the presentation and who will assist, and the specific roles of all involved).

(2) determining equipment to be needed and materials to be prepared.

(3) determining the length of the lesson and the time to be held.

(4) scheduling the room to be used.

(5) determining the seating arrangement.

(6) planning for any follow-up activities.

In every area of the curriculum, some instruction will be given in all of the various grouping arrangements mentioned above.

3. Physical set-up

A team teaching organization requires at least the equivalent of space afforded pupils in self-contained classrooms. Specific requirements include:

a. one room large enough to seat the total group (called "total group" room). This may be an auditorium, cafeteria, or over-sized classroom. It may be shared with other teams or separate classes.

b. one study center.

The aide is located in this center. In addition to a desk and typewriter for the aide, pupil records are filed here. Other equipment and material includes: (1) tables set up with earphones for tape-recorded lessons, (2) reference library shelves, and (3) study tables. Other materials such as easels, if used, should be placed here.

c. team workroom.

Equipment needed includes typewriter, ditto machine, and photocopy equipment. Ideally, this room should adjoin the work center. If so, pupil records may be filed here. A soundproof booth for the preparation of tapes is also desirable.

d. regular classrooms.

One of these classrooms should be the science room with all science equipment stored here. Another classroom may be used for language arts and social studies.

e. small classrooms.

Ideally, a team suite should include one or more small classrooms for small group instruction and committee work. These should adjoin the work center so that pupils may more easily move between rooms.

4. Equipment

A wide variety of equipment is needed for each team. Below are listed items with their desired locations:

Item	Location
a. overhead projector (1 per 2 teachers)	Movable from room to room
b. record player (1)	Movable from room to room
c. piano (1)	Total group room
d. desk for aide (1 per aide)	Study center
e. desks for teachers (1 per teacher)	Team workroom

Item	Location
f. typewriter for aide (1)	Study center
g. typewriter for teachers (1)	Team workroom
h. ditto machine (1)	Team workroom (or central office)
i. movable tables with earphones	Study center
j. tape recorder (2)	Study center (1); team workroom (1)
k. reference library shelves with encyclopedias, etc.	Study center
l. study tables	Study center
m. science lab. equipment	Science classroom
n. movable maps and globes	Language Arts and Social Studies classroom
o. movable television set	Total group room
p. photocopy equipment	Team workroom

APPENDIX C

NORWALK PLAN MATHEMATICS WORKSHOP

I. Background

During the school year 1961-62, the Norwalk Public Schools are piloting seventeen sections of School Mathematics Study Group Classes. It was felt that participating teachers needed special assistance to help them meet this challenging new program successfully. Application was made to and accepted by the Norwalk Plan for a one week workshop for these teachers to include a study of grouping, the use of audio-visual materials, and evaluation. In addition, a staff member was commissioned to prepare audio-visual materials for use by the group during the workshop.

II. Organization of the Workshop

Since the workshop was not to be devoted to a study of the content of the course, the thirteen teacher participants were asked in June, 1961, to indicate their plans for studying the texts before the workshop. An estimate of the average amount of time spent by each member studying this material before the workshop was fifty hours. With this head start the workshop was able to be devoted to the specific goals set up by the Norwalk Plan.

III. Outside Consultants

Five visitors from schools in Connecticut using SMSG material shared their experiences in teaching, advising, and writing the texts. The topics which these consultants considered with the Norwalk staff members included the following:

1. discussion of the background of the SMSG program and some of the thoughts of the writers during the preparation of the materials
2. specific consideration of the grouping and testing program in the Norwalk School System
3. results of testing procedures in schools which have been using SMSG materials
4. the question of acceleration
5. time allotments and emphasis on special units in the program
6. limitation of the new program
7. techniques of constructing audio-visual material

IV. Section Meetings

As part of the workshop, seventh grade and ninth grade teachers worked in committees considering the special problems of their own grade level. During these meetings, teachers shared with each other the experiences some of them had had in mathematics institutes. In these section meetings teachers also spent time constructing tests and discussing specific uses of their audio-visual materials.

V. Evaluation

Each teacher has been contacted to ask for an expression of his evaluation of the workshop. In every case teachers felt that they had made real gains in understanding during this week, not only of the specific materials being studied, but also of their own opportunities for broadening their educational perspective. One teacher indicated that she had not been this enthusiastic about returning to school in thirty years. All of the teachers indicated not just a willingness to carry on the meetings started at the workshop during the school year, but a real interest in starting these meetings as soon as possible.

Table I. How Money is Spent For Team Personnel Through Reallocation of Funds Appropriated for One or More Teaching Stations Depending Upon the Size of the Teams (a teaching station normally valued at $6000)

3 - 5 member teams have one aide and reallocate funds of one teaching station								6 - 8 member teams have two aides and reallocate funds of two teaching stations							
3 Members 75 Pupils		4 Members 100 Pupils		5 Members - 125 Pupils				6 Members 150 Pupils		7 Members 175 Pupils		8 Members 200 Pupils	
1 TL @	$1000	1 TL @	$1000	1 TL @	$1000	1 TL @	$1000	1 TL @	$1000	1 TL @	$1000	1 TL @	$1000
1 CT	500	2 CT	1000	3 CT	1500	2 CT	1000	3 CT	1500	4 CT	2000	5 CT	2500
1 TA	3000	1 TA	3000	1 TA	3000	1 BT 1 TA	0 3000	2 TA	6000	2 TA	6000	2 TA	6000
PT	1500	PT	1000	PT	500	1 PT	1000	PT	3500	PT	3000	PT	2500
	$6000		$6000		$6000		$6000		$12,000		$12,000		$12,000

TL - Team Leader
CT - Cooperating Teacher
BT - Beginning Teacher
TA - Teacher Aide
PT - Part-time help